OMB No. 158-R0134

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

FOR AGENCY USE

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. and Name

a. **Discharge Serial No.** (see instructions) — 201a: IN 9

b. **Discharge Name** Give name of discharge, if any. (see instructions) — 201b: Deep Well

c. **Previous Discharge Serial No.** If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number. — 201c: IN 9

2. Discharge Operating Dates

a. **Discharge Began Date** If the discharge described below is in operation, give the date (within best estimate) the discharge began. — 202a: 67 8 (YR MO)

b. **Discharge to Begin Date** If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin. — 202b: N A (YR MO)

c. **Discharge to End Date** If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. — 202c: N A (YR MO)

3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions) — 203: ☐

4. Discharge Location Name the political boundaries within which the point of discharge is located.

			Agency Use
State	204a: INDIANA	204d	
County	204b: LAKE	204e	
(if applicable) City or Town	204c: GARY	204f	

5. Discharge Point Description Discharge is into (check one): (see instructions)

Stream (includes ditches, arroyos, and other intermittent watercourses)	205a	☐STR
Lake		☐LKE
Ocean		☐OCE
Municipal Sanitary Wastewater Transport System		☐MTS
Municipal Combined Sanitary and Storm Transport System		☐MCS

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13. **Activity Description** Give a narrative description of activity producing this discharge.(see instructions)

213a The activity which produces this discharge is the treating of Steel by Acid Pickling.

14. **Activity Causing Discharge** For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. **Raw Materials**

214a SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
331	Cold Rolled Sheet	10,942	W-5	
331	Misc.Primary Metals	2,242	W-5	
331	Steel Pipes & Tubes	263	W-5	
331	Fabricated Structural Steel	45	W-5	

b. **Products**

214b SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)

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15. Waste Abatement

a. Waste Abatement Practices
Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

215a Narrative: Waste Acid is collected in sumps and pumped/trucked to the waste Acid Plant where it is pumped through two precoat pressure filters and into a storage tank. Filtered acid is injected into a deepwell.

b. Waste Abatement Codes
Using the codes listed in Table II of the Instruction Booklet, describe the waste abatement processes for this discharge in the order in which they occur if possible.

215b

(1) ESEPAR	(2) ESEGRE	(3) EMERGE
(4) EPUMPS	(5) RUSEOR	(6) OOTHER
(7) PDIATO	(8) POTHER	(9) PTEMPE
(10)	(11)	(12)
(13)	(14)	(15)
(16)	(17)	(18)
(19)	(20)	(21)
(22)	(23)	(24)
(25)		

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V.C. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate.(see instructions)

Parameter 216	Present	Parameter 216	Present
Color 00080		Copper 01042	
Ammonia 00610		Iron 01045	X
Organic nitrogen 00605		Lead 01051	
Nitrate 00620		Magnesium 00927	
Nitrite 00615		Manganese 01055	
Phosphorus 00665		Mercury 71900	
Sulfate 00945	X	Molybdenum 01062	
Sulfide 00745		Nickel 01067	
Sulfite 00740		Selenium 01147	
Bromide 71870		Silver 01077	
Chloride 00940	X	Potassium 00937	
Cyanide 00720		Sodium 00929	
Fluoride 00951		Thallium 01059	
Aluminum 01105		Titanium 01152	
Antimony 01097		Tin 01102	
Arsenic 01002		Zinc 01092	
Beryllium 01012		Algicides* 74051	
Barium 01007		Chlorinated organic compounds* 74052	
Boron 01022		Pesticides* 74053	
Cadmium 01027		Oil and grease 00550	
Calcium 00916		Phenols 32730	
Cobalt 01037		Surfactants 38260	
Chromium 01034		Chlorine 50060	
Fecal coliform bacteria 74055		Radioactivity* 74050	

*Specify substances, compounds and/or elements in Item 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

See Page II-9, Item 16

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26. Additional Information

26 Item	Information
16	Other parameters listed in Item 16 may be present in the effluent due to occurrence in the intake water, or may be found in trace amounts in the effluent, but any such parameters are not analyzed for and are not expected to be generated in the process.
17	See attached water quality limits as per negotiated Consent Decree, Exhibit A.

EARLOUGHER ENGINEERING
PETROLEUM CONSULTANTS - CORE ANALYSES
3316 EAST 21ST STREET
TULSA, OKLAHOMA

January 15, 1965

J. E. Foldessy, Manager Design
Design Engineering - Chicago
United States Steel Corporation
208 South LaSalle Street
Chicago, Illinois - 60604

Attention - Mr. H. R. Verwohlt

Re - Core Analysis
Waste Pickle Liquor
Disposal Well No. 1
Gary Sheet & Tin Works
Lake County, Indiana
File No. 536-406-8

Gentlemen:

Attached are results of analysis of six diamond cores of the Eau Clair and Mt. Simon formations received from your above well. Also included are acid solubility tests on 47 samples of drill cuttings. Photograph of the core recovered between depths 2117 and 3813 feet is attached.

A total of 65 feet of the Eau Clair formation was cored in three intervals between depths 1895 and 2142 feet. Seventy-six feet of Mt. Simon formation was cored in three intervals between depths 2466 and 3813 feet. Average core data for the six cored intervals are tabulated below; individual sample results are listed in the body of the report.

Core No.	Depth, Feet From	To	Avg Permeability, Md Horizontal	Vertical	Average Porosity, %	Per Cent Soluble in 15% HCl
EAU CLAIR FORMATION						
1	1895	1915	ND	0.34	ND	13.
2	1970	1990	ND	0.06	ND	40.
3	2117	2142	0.25	-0-	6.2	30.
MOUNT SIMON FORMATION						
4	2466	2491	464.	ND	14.5	1.0
5	3307	3333	392.	ND	15.6	3.3
6	3788	3813	425.	ND	12.9	1.4
Avg 4, 5, 6	2466	3813	427.	--	14.3	1.9

ND = Not determined

Core data for the 65 feet of Eau Clair formation cored indicate very low permeability in both vertical and horizontal planes. It is our opinion that no significant vertical flow of water should occur through the formation of which these cores are representative.

Core samples and drill cuttings will be returned to Gary Sheet and Tin Works in the near future.

Yours very truly

EARLOUGHER ENGINEERING

R. C. Earlougher, Engineer

JMR bw
Encl - 2
cc - Gary Sheet & Tin Works (3)

EARLOUGHER ENGINEERING

CORE SUMMARY

Company United States Steel Corporation Lease Waste Pickle Liquor Disposal Well No. 1

Location Gary Sheet & Tin Works

Section Twp. Rge. County Lake State Indiana

Formation Cored Eau Clair Sh & Mt. Simon SS Type Core 2" & 3-1/2" Diamond

Date Cored 12/15/64-1/8/65 Date Shot Coring Fluid Water Base Mud

Depths:

EAU CLAIR SECTION	
Top of core	1895.0 Feet
Bottom of core	2142.0 "
Total feet cored	65.0 "
MOUNT SIMON SECTION	
Top of core	2466.0 Feet
Bottom of core	3813.0 "
Total feet cored	76.0 "

Shot Record:

Depth, Feet From	To	Feet	Shell Diameter	Quarts Per Foot	Quarts Total

Remarks:

PERMEABILITY Permeability to air was determined on 3/4-inch diameter by 1-inch long cylindrical plugs drilled from cores at one-foot intervals. Horizontal permeability was measured parallel with the bedding plane for cores No. 3, 4, 5 and 6. Vertical permeability was measured perpendicular to the bedding plane for cores No. 1, 2 and 3.

(Continued following page)